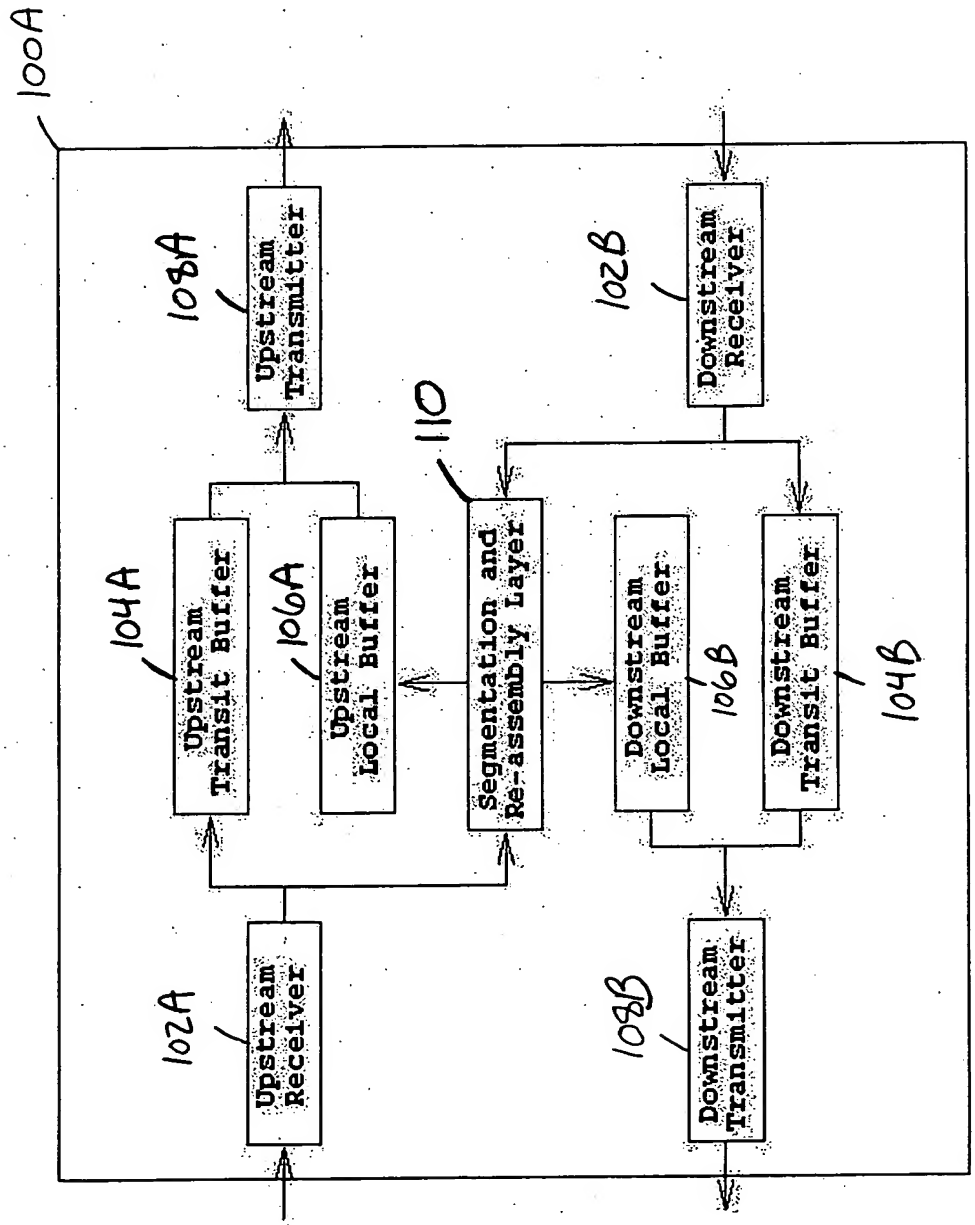
100A
Upstream Receiver
Upstream Transmitter
Downstream Receiver
Downstream Transmitter
Upstream Transit Buffer
Upstream Local Buffer
Segmentation and Re-assembly Layer
Downstream Local Buffer
Downstream Transit Buffer
102A
108A
102B
108B
110
104A
106A
106B
104B

FIG. 1A

150

Variables Maintained At A Node

No.	Variable	Description	Type	Value
1	ID	Node Identifier	Integer	1 – N
2	Direction	Identifier for the ring	Binary	UPSTREAM/DOWNSTREAM
3	$LPR_{<Direction>}$	Last packet received from <Direction>	PACKET	
4	$LPT_{<Direction>}$	Last packet transmitted in <Direction>	PACKET	
5	$PMSN_{<Direction>}$	Permission to transmit in <Direction>	Binary	ENABLE/DISABLE
6	$TR_{<Direction>}$	Transmission Round in <Direction>	Binary	ODD/EVEN
7	$TBR_{<Direction>}$	Transit Buffer Round in <Direction>	Binary	ODD/EVEN
8	$TBTH_{<Direction>}$	Transit Buffer Threshold in <Direction>	Integer	
9	$NPQCR_{<Direction>}$	Number of packets queued in current $TBR_{<Direction>}$	Integer	0 Transit Buffer Size
10	$NPTCR_{<Direction>}$	Number of packets transmitted in current $TR_{<Direction>}$	Integer	

FIG. 1B

160

Packet Fields (Excluding Payload)

No.	Variable	Description	Type	Value
1	Pkt.Src	Source Identifier	Integer	1 – N
2	Pkt.Dst	Destination Identifier	Integer	
3	Pkt.PMSN	Permission to transmit in the opposite direction	Binary	ENABLE/DISABLE
4	Pkt.Round	Transmission round of the packet	Binary	ODD/EVEN

FIG. 1C

170

Changes To The Variables Maintained At The Node 100A

Time	(Pkt.Dst, Pkt.Round)	(NPQCR, TBR)	Packet that is queued in Transit Buffer 104A or 104B	(LPR.Dst, LPR.Round)
0		(0, ODD)	–	(–,–)
1	(2, ODD)	(0, ODD)	–	(2, ODD)
2	(5, ODD)	(1, ODD)	(5, ODD)	(5, ODD)
3	(7, ODD)	(2, ODD)	(7, ODD)	(7, ODD)
4	(2, EVEN)	(0, EVEN)	–	(2, EVEN)
5	(2, EVEN)	(0, EVEN)	–	(2, EVEN)
6	–	(0, EVEN)	–	(2, EVEN)
7	(5, ODD)	(1, EVEN)	(5, EVEN)	(5, ODD)
8	(7, EVEN)	(1, ODD)	(7, ODD)	(7, EVEN)

FIG. 10

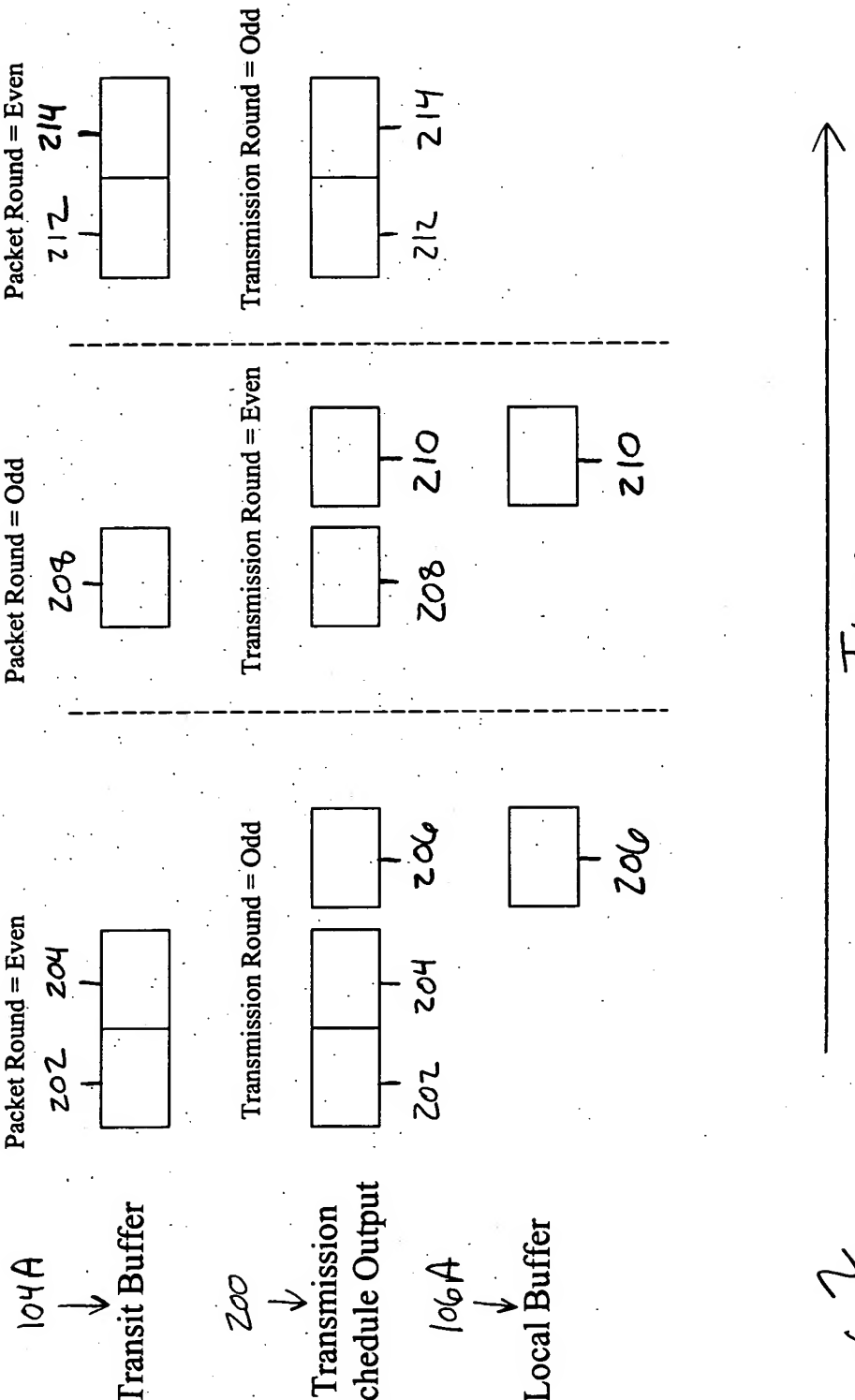
Packet Round = Even
Packet Round = Odd
Transmission Round = Odd
Transmission Round = Even
202
204
206
208
210
212
214
104A
Transit Buffer
200
Transmission Schedule Output
106A
Local Buffer
Time

FIG. 2

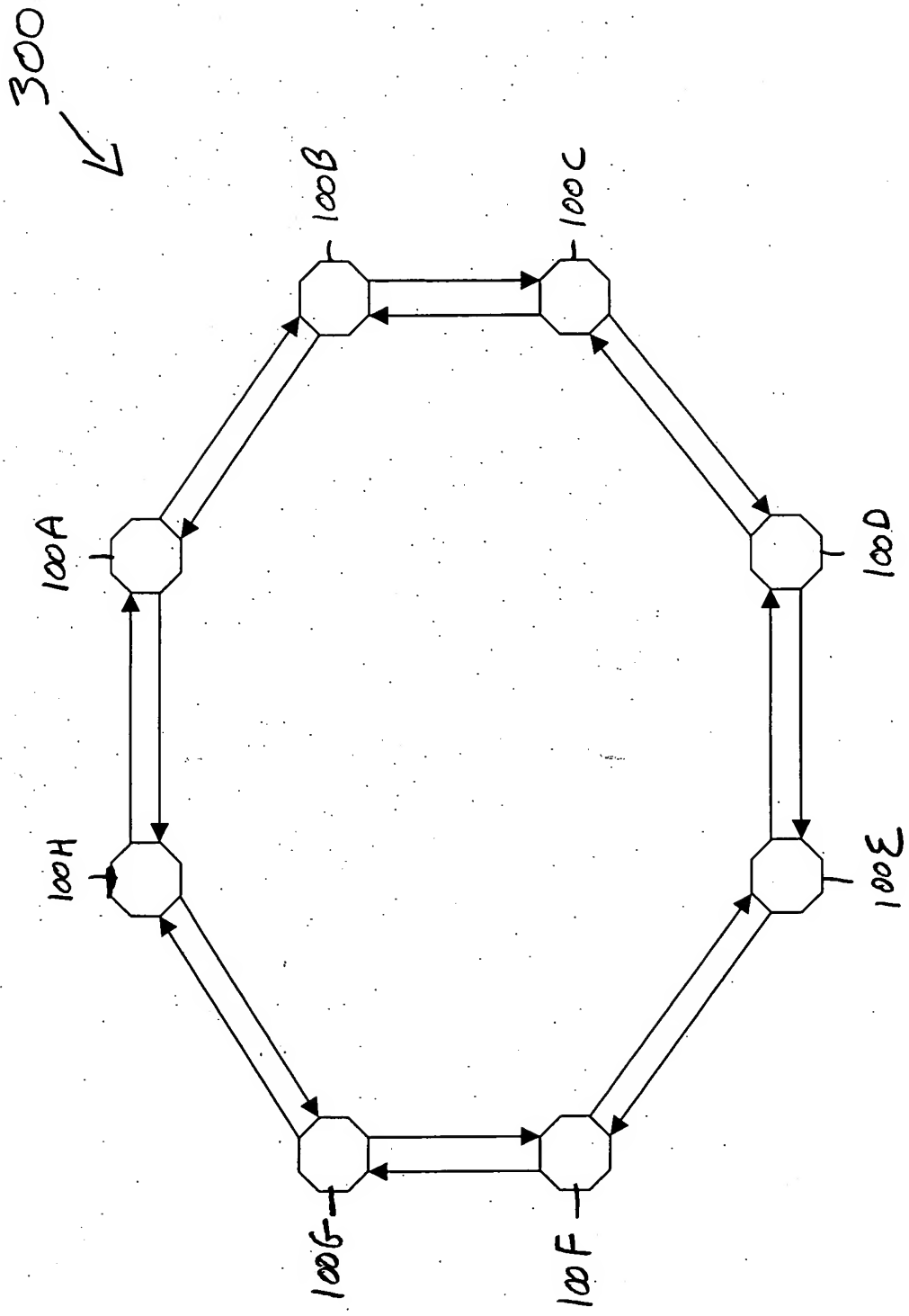

FIG. 3

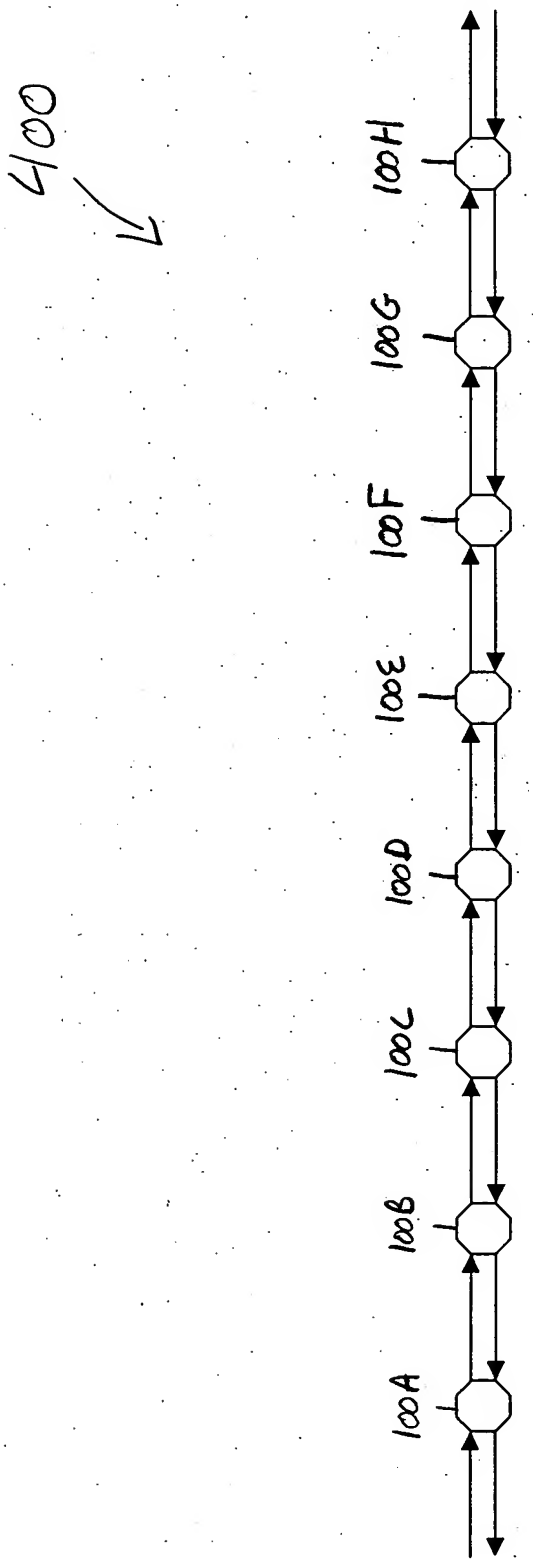

FIG. 4

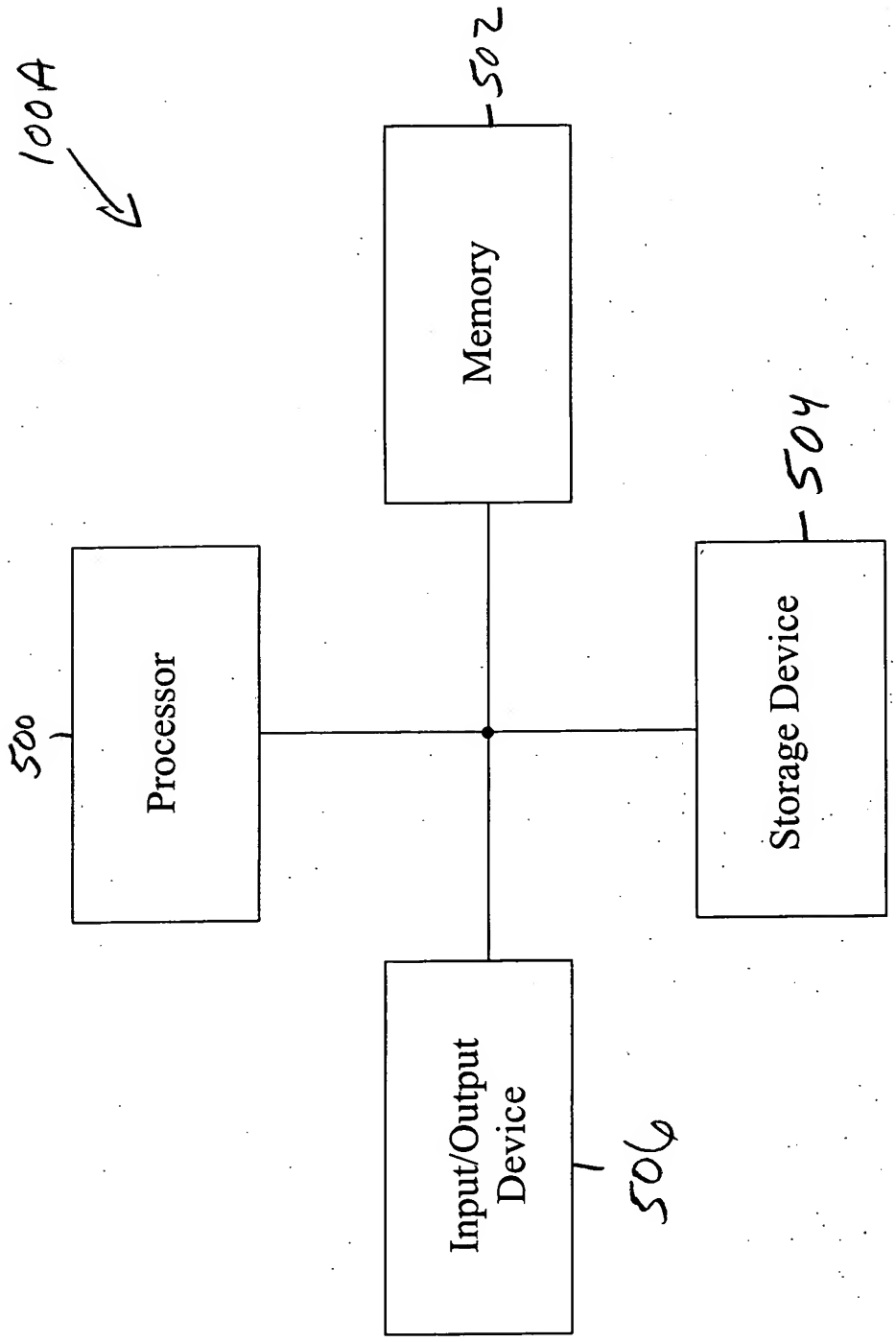
1004
502
Memory
504
Storage Device
500
Processor
Input/Output Device
506

FIG. 5